Testimony of

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Carbon Sequestration and Climate Change: A Case Study

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Mr. Chairman and Members of the Committee, my name is Dale Heydlauff. I am the Senior Vice President for Environmental Affairs at American Electric Power Company. AEP is a multinational energy company based in Columbus, Ohio. AEP owns and operates more than 38,000 megawatts of generating capacity, making it one of America's largest generators of electricity. We are the largest consumer of coal and the third largest consumer of natural gas in the U.S. AEP provides retail electricity to more than 9 million customers worldwide and has more than $55 billion in assets, primarily in the U.S. with holdings in select international markets.

Given AEP's reliance on coal and natural gas to produce reliable and affordable electricity for our customers, we are one of the largest emitters of carbon dioxide emissions in the country. This recognition led us to be a proactive participant in several industry-government programs over the past several years that are designed to reduce, avoid or sequester greenhouse gas emissions. The most significant of these actions is the Climate Challenge Program, a voluntary partnership between the electric utility industry and the Department of Energy. The Climate Challenge Program caused us to conduct a comprehensive assessment of all the available, cost-effective steps that we could take as a company to mitigate greenhouse gas emissions. After consummating our Participation Accord with the U.S. Department of Energy in February 1995, AEP continued to search for opportunities to go beyond our initial commitments.

In the spring of 1996, The Nature Conservancy presented to us a proposal to invest in a carbon sequestration project in Bolivia that could be submitted to the United States Initiative on Joint Implementation for approval. The USIJI program is a collaboration between several federal agencies to foster greenhouse gas mitigation projects around the world. The Nature Conservancy had partnered with a conservation organization in Bolivia, the Friends of Nature Foundation, in the development of the Noel Kempff Mercado Climate Action Project. This project doubled the size of an existing national park, the Noel Kempff Mercado National Park, thus preserving one of the most biologically diverse areas in the world. The project components include the following:

- Park Expansion and Short-term Protection: The project began with the indemnification and retirement of logging concessions sold by the Government of Bolivia to timber companies who were actively engaged in harvesting trees in a 2 million acre area adjacent to the western and southern boundaries of the Park, thus halting the greenhouse gas emissions resulting from this activity. Following this action, the Government of Bolivia formally expanded the boundaries of the Noel Kempff Mercado National Park to encompass this area. The project then called for the establishment of the necessary infrastructure (e.g., guard houses, boats, trucks, etc.) and trained personnel to effectively patrol the Park.

- Community Assistance: Funding of sustainable development activities in local communities adversely affected by the cessation in logging activities through the loss of jobs and tax revenue. Over half of the Park rangers were hired from local communities.

The project established revolving loan funds for micro enterprises, such as heart-of-palm plantings, agro forestry projects, animal husbandry and bee keeping for honey production. In addition, the project has provided funding to: enhance health care programs with a dedicated physician, emergency medical air service, purchase of an ambulance and radio system, and stocking of pharmacies with needed medicines; and install potable water supplies and sanitation systems; improve schools; repair roads and bridges; and establish better communications systems.

- Monitoring & Verification: Retention of Winrock International, the foremost expert in carbon monitoring and verification of terrestrial ecosystems, to accurately measure and report on the level of carbon dioxide captured as a result of the project. Using thorough field measurement procedures at 625 established carbon plots in the Park and an advanced dual camera aerial videography technology developed by the University of Massachusetts, the monitoring and verification program has quantified with a high degree of precision how much carbon existed in the project area prior to commencement of the project and how much carbon is captured as a result of the project. The project is projected to capture over 14 million metric tons of carbon over its 30-year life.

- Long-term Protection: The project created a permanent $1.5 million endowment fund to ensure the long-term financial sustainability of the project. In addition, the project has invested in a few income-generating ventures to augment the returns from the endowment fund. These include establishing an ecotourism destination in the Park, complete with lodging facilities and a visitors center, as well as investments in for-profit Bolivian companies that produce and sell organic, sustainably produced coffee and chocolate candies, and mushrooms. The project also made investments to enhance the scientific research capabilities of the Friends of Nature Foundation to assist the income generating enterprises and improve their ability to discover and genetically reproduce new species of flora and fauna in Bolivia.

- Leakage Prevention: The project has also invested in sustainable forest management practices for timber companies and has worked with the Government of Bolivia to make certain that the logging activities that were being undertaken within the control area were not relocated to another area in Bolivia and that existing logging activities were not expanded as a result of the retirement of the logging concessions in the project area.

Biodiversity Benefits of the Project

The Noel Kempff Mercado Climate Action project protects 4 million acres in one of the most biologically diverse areas in the world. A remote wilderness rising from Amazon rainforests to spectacular cliffs and waterfalls, the Park harbors several hundred species of rare and endangered wildlife. Bridging dry and wet ecological communities, the Park is home to more

than 130 species of mammals (including rare river otters, river dolphins, tapirs, spider and howler monkeys, giant anteaters and endangered jaguars, including a population of rare black jaguars), 620 bird species (including 9 species of macaw, possibly the highest number of species in any one protected area), and 70 species of reptiles (including black caiman and giant armadillos). The area encompasses five important ecosystems ranging from Amazonian rainforest, gallery forest and semi-deciduous tropical forest to flooded savanna and cerrado. A rich variety of grasses, orchids (110 different species), and tree species bloom throughout the year. The diversity of the park's flora and fauna make it an ideal natural area for biological research and an outstanding attraction for ecotourism activities.

AEP's Motivation to Invest in Project

The project represents an extension of AEP's ongoing efforts to find innovative, cost-effective ways to mitigate greenhouse gas emission increases. The company was motivated to invest in the project by a desire to demonstrate to policymakers around the world that joint implementation projects in general and carbon sequestration projects in particular should be included in the broad portfolio of global responses developed to address concerns about global climate change. Actions like the Noel Kempff Mercado Climate Change Action project have enormous potential for proactively addressing existing environmental and economic challenges in developing countries, while also arresting the growth in global greenhouse gas emissions. We believe we have proven with this project that avoided deforestation is a legitimate and verifiable climate change mitigation option that can return considerable ancillary environmental and economic benefits to the host country.

After undertaking this project, AEP invested in the Guaraquecaba Climate Action Project with The Nature Conservation and the Society for Research of Wildlife and Environmental Education, a Brazilian conservation organization, which will restore and protect approximately 20,000 acres of partially degraded and/or deforested Atlantic coastal rainforests in Brazil. Like the Noel Kempff project, the Guaraquecaba project will produce significant net carbon benefits that are scientifically quantifiable and long lasting; protect biodiversity and ecosystems and improve local environmental quality; and promote sustainable development by creating economic opportunities for local people. We were delighted that Senator Brownback, his son and staff, and staff officials from this committee, were able to visit this project site and see its natural beautiful and potential as a carbon action project last December.

Scientific Support for Carbon Sequestration

The Intergovernmental Panel on Climate Change in its Third Assessment Report found that forest protection and restoration can play an important role in combating global climate change. According to the report, "Forests, agricultural lands, and other terrestrial ecosystems offer significant carbon mitigation potential." The conservation of threatened forests, like the lands protected by the Noel Kempff Mercado Climate Action project, can help avoid greenhouse gas emissions that would have otherwise resulted from deforestation. The report also notes that

forest projects, if implemented properly, "can have social, economic and environmental benefits beyond reductions in atmospheric carbon dioxide." These "ancillary benefits," also known as co-benefits, include the provision of employment opportunities and the protection of vital plant and animal habitats. In short, the most recent scientific assessment validates the results of the Noel Kempff Mercado Climate Action Project.

Conclusion

AEP accepts the views of most scientists that enough is known about the science and environmental impacts of global climate change for us to take actions to address its consequences. We were a leader in the development of the Climate Challenge program, and have augmented our early commitments under this program with the largest carbon sequestration project in the world in Bolivia and another similar project in Brazil. Collaborative efforts such as these should serve as a catalyst for similar initiatives to protect diverse and rich ecosystems, and demonstrate the cost-effective mitigation of greenhouse gas emissions.

According to the IPCC, the destruction of tropical forests around the world results in approximately 22% of annual global carbon dioxide emissions caused by human activities. The U.S. Department of State has estimated that for the past twenty years, an average of 38 million acres of tropical forests have been destroyed each year. Combining concerns about climate change with the critical need to preserve the incredibly rich biodiversity present in these forests makes policies that provide financial incentives for the protection of tropical forests very important.

Mr. Chairman, AEP commends you for your insight and leadership in introducing legislation to do just this. The International Carbon Conservation Act and the Domestic Carbon Conservation Act are precisely the kind of policy tools that are needed to encourage actions to offset greenhouse gas emissions through improved land management and conservation. We also need international negotiators to provide full crediting for avoided deforestation activities in any international climate change agreement designed to address rising atmospheric concentrations of greenhouse gases.

Thank you for the opportunity to testify today on this important issue.